

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF GEORGIA  
GAINESVILLE DIVISION

Santana Bryson and Joshua Bryson,  
as Administrators of the  
Estate of C.Z.B., and as surviving  
parents of C.Z.B., a deceased minor,

Plaintiffs,

v.

Rough Country, LLC

Defendant.

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Civil Action File

No. 2:22-cv-17-RWS

**PLAINTIFFS' RESPONSE IN OPPOSITION TO DEFENDANT'S  
DAUBERT MOTION TO EXCLUDE CHRISTOPHER D. ROCHE  
AND HIS OPINIONS**

Mr. Roche is an automotive structural engineer with over 27 years of experience in the field.<sup>1</sup> He is trained and educated as an automotive engineer and is an active member of the Society of Automotive Engineers.<sup>2</sup> He has worked on the structural design of countless vehicles for several major automakers, including Jeep, Hyundai, Kia, Land Rover, Mini, and MG.<sup>3</sup> Mr. Roche has personally applied industry compatibility research in the field to design, test, and validate vehicle structures to ensure vehicle-to-vehicle compatibility in collisions.<sup>4</sup>

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<sup>1</sup> See Ex. 1, Roche CV.

<sup>2</sup> *Id.*

<sup>3</sup> *Id.*

<sup>4</sup> See, e.g., Ex. 2, 2/1/24 Roche Dep., at 18:11-19; 19:7-20:7; 21:6-21.

Mr. Roche’s core opinion in this case is a foregone conclusion to anyone familiar with his field—Rough Country (“RC”) designed an unreasonably dangerous lift kit that interfered with vehicle compatibility standards, including the industry-wide voluntary compatibility agreement (“EVC”).<sup>5</sup> RC does not even *attempt* to challenge Mr. Roche’s conclusion that its lift kit design was unreasonably dangerous and violated established vehicle compatibility standards.

RC has taken a “kitchen sink” approach to contesting Mr. Roche’s opinions—listing several discrete arguments hoping one will work. The Court should deny RC’s motion in its entirety and permit Mr. Roche to offer his expert testimony for several reasons:

***First***, Mr. Roche’s qualifications are unimpeachable. Mr. Roche has extensive experience designing, simulating, testing, and validating vehicle structures for compatibility and crashworthiness. He has *personally* designed frontal vehicle structures to comply with the voluntary industry-wide EVC Agreement that RC’s lift kit violates. RC’s argument for his exclusion because he has not specifically worked for a lift kit manufacturer has no basis in fact or law—he *designed* vehicle structures to maintain compatibility features that RC’s lift kit undermines. Courts regularly find experts qualified to testify in areas in which

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<sup>5</sup> See Ex. 3, Roche Report, at 29, Opinions 1 and 2.

they have *no* industry experience. Challenges to Mr. Roche’s qualifications do nothing but demonstrate the weakness of Rough Country’s available arguments.

**Second**, Mr. Roche’s opinion regarding RC’s failure to inform its users or the general public of the danger posed by its product directly relates to a core factor for Plaintiffs’ design defect claim—“the avoidability of the danger, i.e., the user’s knowledge of the product, publicity surrounding the danger, or the efficacy of warnings.” *Banks v. ICI Americas, Inc.*, 450 S.E. 2d 671, 675 n.6 (1994). That evidence is not only relevant, it is essential evidence supporting Plaintiffs’ design defect claim.

**Third**, Mr. Roche’s safer alternative design preserves the already-existing compatibility of the Ford F-250—by accounting for the lift kit’s added height, Mr. Roche’s alternative design places a SEAS bracket at the *same height* with the *same strength* on the *same vehicle* that has already been designed, tested, and validated by Ford. Mr. Roche supports his conclusion that his alternative design would be safer than RC’s lift kit with industry research, computer simulation data, and full-scale crash testing data.

**Fourth**, Mr. Roche does not seek to introduce Ford’s vehicle compatibility studies as a re-creation of the subject collision. Because Mr. Roche’s testimony related to Ford’s testing and research concerns only “general scientific principles,” the substantial similarity requirement does not apply. *See Cosper v. Ford Motor*

Co., No. 2:18-CV-189-RWS, 2022 WL 17908815, at \*10 (N.D. Ga. Oct. 17, 2022).

*Fifth*, Mr. Roche’s analysis of Exponent’s crash test is reliable. RC’s argument that Mr. Roche did not measure *how much* Exponent’s confounding variables skew its results is an attack on an opinion he never offered. Mr. Roche opines that Exponent’s crash test was unrepresentative of the subject collision—he never claimed to quantify the degree to which that dissimilarity skewed the results, and the caselaw does not require him or Plaintiffs to do so. It is RC’s burden to show its methods are reliable, not Plaintiffs’ burden to show how unreliable they are.

RC’s motion is nothing more than an attempt to prevent the jury from hearing evidence of its defective lift kit design from an automotive structural engineer who designed vehicle structures to protect occupants in crash conditions. The Court should deny RC’s motion and permit Mr. Roche to offer each of his opinions at trial.

## **I. SUMMARY OF MR. ROCHE’S OPINIONS**

Mr. Roche’s conclusions about the hazards caused by RC’s lift kit design are unsurprising—RC sold a lift kit that knowingly violated decades of industry research and an industry-wide agreement to prevent excessive override and

intrusion in foreseeable collisions.<sup>6</sup> Mr. Roche concluded that RC's lift kit made the F-250 non-compliant with the EVC and created an unjustifiably "dangerous condition."<sup>7</sup> RC's motion does not challenge Mr. Roche's conclusion that its product was unreasonably dangerous and defective.

Mr. Roche also concluded RC could have implemented a safer, feasible alternative design. Specifically, Mr. Roche concluded that RC could have sold the lift kit with a modified Secondary Energy Absorption System ("SEAS") bracket to maintain the height of the SEAS bracket on the stock 2016 Ford F-250 (13 inches from the ground).<sup>8</sup> Mr. Roche's SEAS bracket would also maintain the 100kn strength necessary for EVC compliance.<sup>9</sup> Like the SEAS bracket on a stock F-250, it can be installed with an ordinary wrench and two bolts.<sup>10</sup> Mr. Roche's alternative design would cost approximately 25 dollars.<sup>11</sup> The alternative design is exceedingly simple—RC could have sold a SEAS bracket with its lift kit that accounts for the added height of the lift kit, placing the SEAS bracket at the *same height* and *same strength* as the already-existing SEAS bracket equipped with the stock F-250.<sup>12</sup>

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<sup>6</sup> *Id.* at 29.

<sup>7</sup> *Id.*

<sup>8</sup> *Id.* at 28.

<sup>9</sup> *Id.*; *see also* Ex. 2, 2/1/24 Roche Dep., at 57:4-58:13.

<sup>10</sup> *See* Ex. 2, 2/1/24 Roche Dep., at 196:15-23.

<sup>11</sup> *See* Ex. 3, Roche Report, at 28.

<sup>12</sup> *See* Ex. 2, 2/1/24 Roche Dep., at 219:10-16.

Mr. Roche's alternative design would allow the lifted F-250 to maintain compliance with the Enhanced Vehicle Compatibility agreement ("EVC"). In 2005, every manufacturer of pickup trucks and SUVs sold in the United States *voluntarily* agreed to comply with the EVC's safety requirements for vehicle structure height.<sup>13</sup> To comply with the EVC, an automaker *must* either (1) design the vehicle's frame rails ("PEAS") less than 18 inches off the ground or (2) design the vehicle's SEAS bracket less than 16 inches off the ground.<sup>14</sup> The 2016 Ford F-250 had an EVC-compliant SEAS bracket (13 inches), which RC's lift kit made non-compliant by raising the vehicle's height by six inches (making the SEAS 19 inches off the ground). By accounting for the added height and placing the SEAS bracket with the same strength *back* to the original 13-inch height, Mr. Roche's alternative design maintains the compatibility performance of the stock F-250's SEAS bracket.

Mr. Roche also created a rebuttal report summarizing his conclusions about Exponent's crash test.<sup>15</sup> Because RC's experts testified the crash test aimed to isolate the effect of a lift kit on intrusion by "matching" the subject collision,<sup>16</sup> Mr.

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<sup>13</sup> See Ex. 4, EVC Agreement. Manufacturers had two options for compliance: (1) design the pickup truck's primary energy absorption system ("PEAS") to overlap at least 50% with the 16-20 inch range, or (2) design the pickup truck's secondary energy absorption system ("SEAS") to overlap fully with the 16-20 inch range.

<sup>14</sup> *Id.*

<sup>15</sup> See Ex. 5, Roche Rebuttal Report.

<sup>16</sup> See Ex. 6, Grimes Dep., at 171:16-173:8.

Roche studied whether the Exponent test was *actually* representative of the subject crash. He identified several variables Exponent changed in its crash test, and concluded that with respect to those variables, the crash test “does not accurately represent the subject crash condition.”<sup>17</sup>

The dissimilarities Mr. Roche identified between the subject crash and Exponent test are extensive. *First*, by comparing the damage to the Escape’s right liftgate pillar in the subject crash and crash test, Mr. Roche determined Exponent’s crash test added *at least* four inches of additional offset.<sup>18</sup> He relied on three-dimensional scan data to measure the distance between structures with direct vs. indirect contact to reach his conclusion about the amount of additional offset.<sup>19</sup> *Second*, Mr. Roche noted that the Ford Escape used in the crash test differed from the Bryson family’s Escape because it did not have a sunroof.<sup>20</sup> He explained that non-sunroof structures are *weaker* than vehicles with sunroofs due to a reinforcing ring and noted a significant difference in roof deformation based on scan data from the two collisions.<sup>21</sup> *Third*, he noted that Exponent *intentionally* omitted the cargo that the Bryson family had in their trunk, while purporting to attribute the crash test

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<sup>17</sup> See Ex. 5, Roche Rebuttal Report, at 14, Opinions 1-2, Opinion 6.

<sup>18</sup> *Id.* at 4-5; 9.

<sup>19</sup> See Ex. 7, 7/17/24 Roche Dep., at 32:8-20.

<sup>20</sup> See Ex. 5, Roche Rebuttal Report, at 9.

<sup>21</sup> *Id.*

results to that variable.<sup>22</sup> *Fourth*, he concluded the ballasted weight of the test Escape did not represent the subject collision.<sup>23</sup> *Fifth*, he noted that the crash test failed to adequately document whether the test Escape’s parking brake was engaged, making it impossible to know whether Exponent properly placed it in neutral before performing the test.<sup>24</sup>

RC’s complaint that Mr. Roche could not measure *how much* Exponent skewed its crash test misses the point. Mr. Roche never claimed to measure how much Exponent’s confounding variables skewed the results—Exponent’s improper testing methodology made that impossible for *anyone* to determine. Instead, he analyzed the crash test’s variables to “understand how representative the crash test is to the subject crash.”<sup>25</sup> The validity of Mr. Roche’s opinion *that* Exponent changed variables between the two collisions is unaffected by the impossibility of determining *how much* those variables skewed the results.

## II. LEGAL STANDARD

Federal Rule of Evidence 702 governs the admissibility of expert testimony. It provides:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an

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<sup>22</sup> *Id.* at 11.

<sup>23</sup> *Id.* at 8.

<sup>24</sup> *Id.* at 9,

<sup>25</sup> *See* Ex. 7, 7/17/24 Roche Dep., at 40:1-19.



opinion or otherwise if:

(a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;

(b) the testimony is based on sufficient facts or data;

(c) the testimony is the product of reliable principles and methods; and

(d) the expert has reliably applied the principles and methods to the facts of the case.

Fed. R. Evid. 702(b). The party proffering expert testimony must prove that the Rule 702 requirements have been satisfied. *United States v. Frazier*, 387 F.3d 1244, 1260 (11th Cir. 2004) (en banc).

*Daubert's* admissibility standards do not substitute the adversarial process. Instead, cross-examination and presentation of contrary evidence at trial remain the "traditional and appropriate means" of attacking an expert witness's conclusions. *Daubert*, 509 U.S. at 596. "[W]here the expert's testimony has a reasonable factual basis, a court should not exclude it. Rather, it is for opposing counsel to inquiry into the expert's factual basis." *United States v. 0.161 Acres of Land*, 837 F.2d 1036, 1040 (11th Cir. 1988). Because trial examination is the proper mechanism for assessing an expert's opinions, "case law after *Daubert* shows that the rejection of expert testimony is the exception rather than the rule." *Kilgore v. Reckitt Benckiser, Inc.*, 917 F. Supp. 2d 1288, 1293 (N.D. Ga. 2013) (quoting Fed.

R. Evid. 207 advisory committee’s note to 2000 amendments).

### III. ARGUMENT

Mr. Roche’s opinions are based on well-established principles in vehicle design and automotive structural engineering. None of RC’s criticisms of Mr. Roche’s opinions warrant excluding them; they are topics for cross-examination. The Court should deny RC’s motion and allow Mr. Roche to offer his opinions at trial.

#### A. Mr. Roche is qualified to offer expert opinions under Rule 702.

Rule 702 permits expert testimony from witnesses “qualified by knowledge, skill, experience, training, *or* education to render the opinion.” Fed. R. Evid. 702 (emphasis added). Mr. Roche is qualified to offer expert opinions in automotive structural engineering, vehicle design, and crashworthiness through *each* of the bases listed in Rule 702.

Mr. Roche is a licensed and degreed structural engineer with over 27 years of experience in automotive structural design and crashworthiness.<sup>26</sup> He has worked on the design, development, validation, and testing of vehicle structural systems at countless automotive manufacturers.<sup>27</sup> He has extensive expertise in

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<sup>26</sup> See Ex. 1, Roche CV.

<sup>27</sup> *Id.*

performing vehicle simulation, modeling, and crash testing<sup>28</sup> to design vehicle structures.<sup>29</sup> He has applied industry research on vehicle compatibility and ride height to design vehicle structures to meet compatibility standards in collisions.

Mr. Roche designed the 2005 Jeep Grand Cherokee's front structural system to meet industry crash compatibility standards, including the at-issue EVC.<sup>30</sup> He has designed, developed, and tested EVC-compliant SEAS structures.<sup>31</sup> Mr. Roche is more than qualified to offer his automotive structural engineering opinions—he *designed* vehicles to meet the structural compatibility requirements that RC's lift kit undermines.

RC urges the Court to create a requirement where there is none—that Mr. Roche must have worked at a lift kit manufacturer to offer expert opinions. That argument has no basis in fact or law. Its claim that Mr. Roche has never worked for an aftermarket manufacturer is equally incorrect—Mr. Roche has experience designing aftermarket modifications as a Qualified Vehicle Modifier for Ford vehicles.<sup>32</sup> Mr. Roche's expertise in the exact vehicle compatibility considerations

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<sup>28</sup> RC's out-of-context citation to Mr. Roche's deposition testimony that he has not been involved in "a case where crash testing . . . actually went forward" is misleading at best. *See* Def's Br., at 8. Mr. Roche was responding to a question about his involvement in *litigation* cases involving crash testing. *See* Ex. 7, 7/17/24 Roche Dep., at 13:5-24.

<sup>29</sup> *See* Ex. 1, Roche CV.

<sup>30</sup> *Id.* at BRYSON001419; Ex. 2, Roche Dep., at 24:22-25:15.

<sup>31</sup> *See* Ex. 2, 2/1/24 Roche Dep., at 18:11-19:23.

<sup>32</sup> *Id.* at 153:6-154:1.

at issue in this case make him more than qualified to offer opinions on the effects RC's lift kit had on the F-250's vehicle compatibility design measures.

Rule 702 “takes a liberal view of expert witness qualifications.” *Leathers v. Pfizer*, 233 F.R.D. 687, 692 (N.D. Ga. 2006) (citations omitted). “The qualification standard for expert testimony is ‘not stringent,’ and so long as the expert is minimally qualified, objections to the level of the expert’s expertise go to credibility and weight, not admissibility.” *Fair Fight Action v. Raffensperger*, No. 1:18-CV-5391-SCJ, 2020 WL 13565010, at \*4 (N.D. Ga. Dec. 11, 2020) (citing *Kilpatrick v. Breg., Inc.*, No. 08-10052-CIV, 2009 WL 2058384, at \*3 (S.D. Fla. June 25, 2009), *aff’d*, 613 F.3d 1329 (11th Cir. 2010)). Because Mr. Roche’s expertise far surpasses the low threshold that he can “testify competently regarding the matters he intends to address,” the Court should permit his testimony. *City of Tuscaloosa v. Harcross Chems., Inc.*, 158 F.3d 548, 562-63 (11th Cir. 1998) (citations omitted). RC’s complaint that Mr. Roche has not specifically worked for an aftermarket lift kit manufacturer is a subject for cross-examination, not exclusion.

**B. Mr. Roche’s reference to RC’s failure to warn its customers about the product’s defect is relevant to Plaintiffs’ design defect claim.**

RC’s failure to warn its customers of the compatibility danger caused by its product comfortably meets the low bar for relevant evidence. *See Fed. R. Evid.*

401. The Georgia Supreme Court outlined the test for Plaintiffs’ design defect

claim in *Banks*, 450 S.E.2d at 671. One of the core factors relevant to Plaintiffs’ design defect claim is “the avoidability of the danger, i.e., the user’s knowledge of the product, publicity surrounding the danger, or the efficacy of warnings.” *Id.* at 675 n.6. RC cannot preclude evidence of one of the core risk-utility factors on relevance grounds. A recent decision from the Northern District of Georgia rejects this very argument. *See Andrews v. Autoliv Japan, Ltd.*, No. 1:14-CV-3432-SCJ, 2021 WL 4093628, at \*1 (N.D. Ga. Jan. 20, 2021).

RC has not articulated *any* unfair prejudice warranting exclusion—concern that jurors may think the evidence is “somehow important” does not justify Rule 403 exclusion. *See United States v. Smith*, 967 F.3d 1196, 1205 (11th Cir. 2020) (“Exclusion under Rule 403 is an extraordinary remedy that should be used sparingly.”) (citation omitted); *United States v. Terzado-Madruga*, 897 F.2d 1099, 1119 (11th Cir. 1990) (“[s]imply because the evidence is damaging or prejudicial to a defendant’s case does not mean, however, that the evidence should be excluded.”).

**C. Mr. Roche supported his alternative design opinion with reliable principles and methods.**

Mr. Roche’s opinion about the safer, feasible alternative design available to RC is reliable—Ford already designed, tested, and validated its placement of SEAS brackets at the *same height* with the *same strength* on the *same vehicle*. The safer alternative design proposed by Mr. Roche does nothing novel; it preserves the

already-existing performance of the SEAS bracket designed and implemented by Ford to comply with the EVC.<sup>33</sup>

In design defect claims, Georgia law permits the jury to consider alternative designs that “would have made the product *safer* than the original design[.]” *Banks*, 264 Ga. at 736 (emphasis added). Mr. Roche applied reliable structural engineering principles to conclude his alternative design would have been safer by maintaining the SEAS bracket at an EVC-compliant height.

Mr. Roche’s alternative design is supported by decades of industry research on vehicle compatibility which led to the EVC to reduce excessive intrusion through height mismatch in collisions.<sup>34</sup> EVC compliance through PEAS and SEAS structures reduces intrusion in collisions.<sup>35</sup> That compliance translates directly to safety—Mr. Roche cites a 2011 IIHS study, which concludes EVC compliance is likely “a large factor in the reduced aggressivity [meaning fatality rates in other vehicles] of light trucks.”<sup>36</sup>

RC’s characterization of Mr. Roche’s alternative design as “untested” fails—Mr. Roche supports his alternative design with ample studies and tests

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<sup>33</sup> See Ex. 3, Roche Report, at 27-28 (explaining his alternative design).

<sup>34</sup> See Ex. 4, Enhancing Vehicle-to-Vehicle Compatibility Agreement.

<sup>35</sup> See Ex. 3, Roche Report, at 19-20 (summarizing the effectiveness of EVC compliance in reducing intrusion through structural compatibility).

<sup>36</sup> *Id.* at 20; see also Ex. 8, Teoh, Eric & Nolan, Joseph 2011, IIHS, Is Passenger Vehicle Incompatibility Still a Problem?

confirming its effectiveness. Full-scale crash tests performed by Ford and NHTSA show a significant reduction in intrusion when its pickup trucks maintain EVC-compliant height,<sup>37</sup> including specifically through the placement of SEAS structures at an EVC-compliant height on the F-250.<sup>38</sup> Barrier tests of Ford SEAS structures confirm they successfully improve vehicle compatibility by reducing the average force height in collisions.<sup>39</sup> Ford also created simulation studies showing its SEAS brackets absorb sufficient energy at the proper height to maintain EVC compliance.<sup>40</sup> Mr. Roche's alternative design *empirically* improves safety by reducing intrusion in foreseeable collisions.<sup>41</sup>

RC's case citations show precisely why Mr. Roche's alternative design opinion does not warrant exclusion—his proposed alternative design is based on a validated, tested, and implemented product design, not merely “conceptualizing possibilities.” *See Wright v. Case Corp.*, No. 1:03CV1618-JEC, 2006 WL 278384, at \*5 (N.D. Ga. Feb. 1, 2006) (expert solely “conceptualize[d] his proposed

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<sup>37</sup> *See* Ex. 9, Roche Supp. Report; *see also* Ex. 10, 2007 Ford to NHTSA presentation.

<sup>38</sup> *See* Ex. 11, NHTSA Paper No. 07-0231.

<sup>39</sup> *See* Ex. 9, Roche Supp. Report, at 2-4 (summarizing barrier tests).

<sup>40</sup> *See* Ex. 12, NHTSA/Ford Motor Company. Paper # 05-463; *see also* Ex. 3, Roche Report, at 19 (explaining how the simulation supports his opinion that SEAS bracket design properly engages frame structures).

<sup>41</sup> Undersigned counsel cannot recall handling a case where the alternative design has been so thoroughly tested.

modifications”); *Thurmond v. Fed. Sig. Corp.*, 1:16-CV-01529-ELR, 2018 WL 9490352, at \*4 (N.D. Ga. Aug. 30, 2018) (excluding alternative design expert because expert did not assess whether it could viably work on the product); *Bolt v. Ford Motor Co.*, 1:16-cv-00447-SCG, 2019 WL 1254662, at \*6 (N.D. Ala. March 19, 2019) (excluding alternative design based on a “mistake of fact” and lacking any explanation supporting it). Unlike in the cases RC cites, Mr. Roche supports his alternative design with industry studies on the effects of height compatibility, as well as real-world validation, testing, and implementation of the SEAS bracket for the F-250.

RC also wrongly imposes a higher standard of proof regarding alternative designs than Georgia law requires. The Georgia Supreme Court has held that the jury may consider whether “*an alternative design would have made the product safer* than the original design and was a marketable reality and technologically feasible.” *CertainTeed Corp. v. Fletcher*, 794 S.E.2d 641, 644 (Ga. 2016) (emphasis added) (quoting *Banks*, 450 S.E.2d at 674-75).

For that reason, “the appropriate analysis” in a design defect case like this one often “includes consideration of whether the defendant failed to adopt a reasonable alternative design which would have *reduced* the foreseeable risks of harm presented by the product.” *Jones v. NordicTrack, Inc.*, 550 S.E.2d 101, 103



(Ga. 2001) (emphasis added). Mr. Roche’s opinion that his alternative designs would have made the product safer is supported by industry research and action.

RC’s argument against Mr. Roche’s alternative design boils down to its belief that Mr. Roche’s designs would not have increased the lift kit’s safety as much as he claims. But under Georgia law, the alternative evidence is admissible as long as it would make the product *safer*. And regardless, RC criticism is a matter that goes to weight, not admissibility. *See Crawford v. ITW Food Equip. Grp., LLC*, 977 F.3d 1331, 1339 (11th Cir. 2020) (“Arguments that an alternative design costs too much, or does not increase the safety as much as it claims to, are arguments that go to the weight of the expert’s testimony, not its admissibility.”).

**D. Ford’s testing on vehicle compatibility does not violate the “substantial similarity” test.**

Mr. Roche seeks to testify about vehicle compatibility research conducted by Ford to illustrate the “general scientific principle” that increasing vehicle height “significantly degrades” vehicle compatibility and increases the risk of override and intrusion.<sup>42</sup> Because Mr. Roche does not intend to use any of the tests in Ford’s compatibility research to re-enact the subject collision, the substantial similarity test does not apply. *See Cosper*, 2022 WL 17908815, at \*10 (“[W]hen tests or demonstrations are not offered to recreate the accident but only to illustrate

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<sup>42</sup> *See* Ex. 9, Roche Supp. Report, at 6.

physical principles, the substantial similarity doctrine does not apply) (citing *Tran v. Toyota Motor Corp.*, 420 F.3d 1310, 1316 (11th Cir. 2005)); *see also Burchfield v. CSX Transp., Inc.*, 636 F.3d 1330, 1334-35 (11th Cir. 2011) (same).

Mr. Roche’s testimony about Ford’s compatibility research illustrates the exact principle it was intended for—to show the relationship between vehicle ride height and hazardous vehicle incompatibility in collisions.<sup>43</sup> Ford *created* its compatibility tests as part of a Technical Working Group to help develop the industry-standard EVC compatibility requirements.<sup>44</sup> Ford’s rigid barrier tests and exemplar crash tests show the scientific principle that raising pickup truck height increases the average height of force above the EVC zone, and therefore reduces the structural engagement between vehicles in a collision.<sup>45</sup> Mr. Roche makes no comparison between the conditions in the Ford studies and the subject collision—he merely uses those studies to show how increasing ride height reduces compatibility.<sup>46</sup>

None of Ford’s vehicle compatibility tests “purports to depict the accident at issue”—they depict entirely different crash scenarios and took place decades before the Bryson family’s life-changing crash. *See McHale v. Crown Equip.*

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<sup>43</sup> *Id.* at 7.

<sup>44</sup> *Id.* at 2.

<sup>45</sup> *Id.* at 6.

<sup>46</sup> *Id.*

*Corp.*, 2022 WL 4350702 (11th Cir. 2022) (“When a party seeks to introduce evidence of pointedly dissimilar events that did not purport to depict the accident at issue, the substantial similarity test does not apply.”). Ford’s barrier tests look nothing like the subject crash—they are collisions between a pickup truck and a rigid wall with sensors.<sup>47</sup> Similarly, Ford’s compatibility crash tests do not purport to represent the subject crash—they were *frontal* impacts between pickup trucks and smaller passenger cars (not an SUV like the Brysons’ Ford Escape).<sup>48</sup> Mr. Roche seeks to testify about crash tests with no resemblance to the subject collision—substantial similarity is not required to admit those tests. *See, e.g.*, *Cosper*, 2022 WL 17908815, at \*10 (substantial similarity requirement did not apply to roof drop tests that “do not purport to recreate the subject accident”); *Heath v. Suzuki Motor Corp.*, 126 F.3d 1391, 1396 (11th Cir. 1997) (rollover test of different vehicles not subject to substantial similarity requirement).

In addition, Plaintiff will not show any videos of Ford’s crash tests—just pictures and Ford’s written research and study. This kind of evidence is not subject to the same rigorous analysis as videos of crash tests. *See, e.g.*, Doc. 211 at 50-63, *Fox v. Gen. Motors*, 1:17-cv-207 (Cohen, J.) (allowing testimony about selected tests, but excluding videos).

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<sup>47</sup> *Id.* at 3-4.

<sup>48</sup> *Id.* at 4-6.

The probative value of Ford’s research is immense—it demonstrates the scientific principle that excessively raised vehicles can diminish vehicle compatibility in collisions. RC does not articulate how admitting the Ford research would cause sufficient “confusion” to warrant the “extreme remedy” of Rule 403 exclusion. *See Smith*, 967 F.3d at 1205.

**E. Mr. Roche’s analysis of whether Exponent’s crash test was representative is grounded in reliable principles and methods.**

RC seeks to exclude an opinion Mr. Roche never offered. Mr. Roche’s opinion related to the Exponent crash test was that it “does not accurately represent the subject crash condition” in several respects.<sup>49</sup> Mr. Roche does not purport to quantify how much Exponent’s confounding variables skewed the crash test results—he made that explicit during his deposition.<sup>50</sup>

**i. Mr. Roche reliably concluded the crash test introduced at least four additional inches of lateral offset from the subject collision.**

Mr. Roche compared the damage to the right liftgate pillar in the subject crash and the crash test. The right liftgate pillar in the subject Escape had deformation consistent with *direct* contact across its entire four-inch width.<sup>51</sup> The crash test’s right liftgate pillar had only *non-direct* damage.<sup>52</sup> Based on the

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<sup>49</sup> *See* Ex. 5, Roche Rebuttal Report, at 14.

<sup>50</sup> *See* Ex. 7, 7/1/24 Roche Dep., at 40:1-19.

<sup>51</sup> *See* Ex. 5, Roche Rebuttal Report, at 4-5.

<sup>52</sup> *Id.*

different deformation patterns on the liftgate and the width of the liftgate structure, Mr. Roche confirmed the crash test introduced *at least* four additional inches of offset compared to the subject collision.<sup>53</sup>

Mr. Roche’s methodology for distinguishing between direct and induced damage stems from reliable principles in accident reconstruction. Mr. Roche has significant training and experience in accident reconstruction, including multiple training courses with the Northwestern University Center for Public Safety on Traffic Crash Investigation.<sup>54</sup> At those trainings, Mr. Roche was instructed in Lynn Fricke’s widely accepted method for identifying direct and incidental damage on a vehicle.<sup>55</sup> He followed that method paired with his extensive experience in studying vehicle collision dynamics as a structural engineer to distinguish between the two types of deformation patterns.

RC’s complaint that Mr. Roche had no “baseline” offset misunderstands his methodology. Mr. Roche’s measurement did not need a “baseline”—because the entire width of the right liftgate pillar exhibited direct contact in the subject collision and only *indirect* contact in the crash test, he could comfortably conclude that the difference between the offsets *at minimum* covered the entire width of the

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<sup>53</sup> *Id.*

<sup>54</sup> *See* Ex. 1, Roche CV.

<sup>55</sup> *See* Lynn B. Fricke and J. Stannard Baker, Traffic Crash Investigation, 2014

liftgate structure. Using three-dimensional exemplar scan data, he confirmed the difference was at least four inches.

**ii. Mr. Roche reliably concluded Exponent used a Ford Escape with an unrepresentative sunroof structure.**

Mr. Roche also concluded the crash test Escape was different than the subject Escape because it did not have a sunroof.<sup>56</sup> As an expert in vehicle structural design, Mr. Roche also noted two additional facts: (1) body structures with a sunroof “have an additional reinforcement ring to maintain body stiffness and strength,”<sup>57</sup> and (2) a comparison of three-dimensional scan data reveals the roofs of the test Escape and subject Escape deformed differently *all the way up to the front of the car* (the white coloring shows deformation):<sup>58</sup>



Image 9: Crash Test & Exemplar Escape Roof Comparison

As with his other critiques of Exponent’s test, Mr. Roche did not conclude *how much* of an effect Exponent’s different structure had on the crash test results—just that the roof structure “does not accurately represent the subject crash condition.”<sup>59</sup>

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<sup>56</sup> See Ex. 5, Roche Rebuttal Report, at 4.

<sup>57</sup> *Id.* at 9.

<sup>58</sup> *Id.*

<sup>59</sup> *Id.*

RC's claim that Mr. Roche did not "validate" his sunroof conclusion is especially confusing—RC *admits* the sunroof structures were different. RC is asking the Court to exclude "any opinion Roche might offer about [the] sunroof issue" because he did not test an opinion he does not offer. Mr. Roche's opinion that the sunroof structures were unrepresentative of the subject collision is reliable and undisputed. The Court should not exclude it.

**iii. Mr. Roche's opinion that the cargo in the test Escape was unrepresentative of the subject collision is reliable and unrebutted.**

Again, RC does not actually challenge the opinion Mr. Roche offers. Mr. Roche's opinion that the test Escape's lack of cargo was unrepresentative of the subject crash is undisputed—Mr. Grimes *intentionally* omitted the cargo from the crash test Escape.<sup>60</sup>

RC's argument for exclusion based on a failure to "quantify" how much intrusion the cargo caused is a reason to exclude **Mr. Grimes'** opinions, not Mr. Roche's. Unlike Mr. Roche, Mr. Grimes *actually* opines that the second-row seat deformation would have been similar if he and Exponent had not run the crash test without any cargo in the trunk.<sup>61</sup> In RC's own words, Mr. Grimes' opinion

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<sup>60</sup> See Ex. 6, Grimes Dep., at 192:24-194:11.

<sup>61</sup> *Id.* at 196:17-197:13.

attributing the dissimilarity between the rear-seat deformation in the crash test and subject collision warrants exclusion because “it is not properly validated.”<sup>62</sup>

**iv. Mr. Roche’s opinion that the crash test was not ballasted in a representative manner is reliable.**

Mr. Roche’s opinion about the crash test ballast stems from a simple comparison of the weight Exponent added to the actual weight present in the subject collision. Exponent’s ballast weights underestimated the Bryson parents’ weights by over 100 pounds each.<sup>63</sup> Exponent also placed 500 pounds of ballast in the second row of the test Escape, despite the actual weight of second row occupants and cargo totaling under 100 pounds.<sup>64</sup> Nothing about that comparison warrants exclusion—the crash test’s dissimilarity to the subject crash stems from basic observation and math.

**v. Mr. Roche’s opinion about the parking brake is reliable.**

Exponent’s crash test report includes a photograph showing the Ford Escape’s parking brake was engaged.<sup>65</sup> Due to a lack of proper documentation, Exponent’s report does not show whether the parking brake was disengaged before performing the crash test. Mr. Roche’s report acknowledges the lack of

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<sup>62</sup> See Def’s Br., at 17; *see also* Doc. 150, Pls’ Mot. to Limit Grimes’ Testimony, at 12-14 (seeking to exclude Mr. Grimes’ speculative rear-seat deformation opinion).

<sup>63</sup> See Ex. 5, Roche Rebuttal Report, at 8.

<sup>64</sup> *Id.*

<sup>65</sup> See Ex. 13, Exponent Crash Test Report Excerpt, at Photo 12327PH\_0286.



information about the parking brake—he solely opines that if the parking brake was engaged, that would constitute another unrepresentative aspect of the crash test and violate crash test procedures.<sup>66</sup>

**F. The Court should evaluate each expert’s methodology individually.**

The Court should reject RC’s plea to exclude all opinions of Plaintiffs’ other experts “to the extent” they rely on Mr. Roche’s opinions. Experts can have more than one basis for their opinion—excluding one basis for an expert’s opinion does not automatically render it invalid. The Court should reject RC’s blanket attempt to exclude expert testimony that references Mr. Roche’s opinions and instead address the merits of each expert’s opinions individually.

**IV. CONCLUSION**

Mr. Roche supports each of his expert opinions with reliable methodologies. The jury should be permitted to assess Mr. Roche’s expert testimony for themselves.

Respectfully submitted on March 17, 2025.

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<sup>66</sup> See Ex. 5, Roche Rebuttal Report, at 9.

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## CERTIFICATE OF COMPLIANCE

Pursuant to Local Rules 5.1(B) and 7.1(D), I hereby certify that the foregoing filing complies with the applicable font and size requirements and is formatted in 14-point Times New Roman font.

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**CERTIFICATE OF SERVICE**

I hereby certify that the foregoing was electronically filed with the Clerk of Court via CM/ECF, which will automatically serve the following attorneys of record:

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